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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,390	12/30/1999	KENNETH M. HOUSTON	CSLL-588	6274
7590 09/06/2005			EXAMINER	
MARK G LAPPIN MCDERMOTT WILL & EMERY 28 STATE STREET BOSTON, MA 02109			LAO, LUN S	
			ART UNIT	PAPER NUMBER
			2644	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/475,390

Applicant(s)

HOUSTON, KENNETH M.

Examiner

Lun-See Lao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. This is respond to the amendment filed on 06-07-2005. Claim 19 has been amended and claims 1-25 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Watson (US PAT. 3,978,286).

Consider claim 12, Watson teaches a linear transducer (see fig.1, 80), for use (in any event, " for use" is not a positive structural limitation) in an electro-larynx having a waveform generator (such as motor) that produces an input signal and a power source (30 battery), said linear transducer comprising:

A. an armature assembly (see fig.1, 24), which receives said input signal and vibrates as a function thereof;

B. a suspension assembly (80,68) coupled to said armature assembly (24); and

C. a coupler disk (88, washer), coupled to said suspension assembly (32), wherein a vibration (motion) in said armature assembly causes a corresponding vibration of said

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coupler disk (88,18) according to a linear function (80, spring) (transform an input signal to an output vibration, such as a spring) of said input signal (see col.2 line 14-col. 3. line35).

Consider claims 13-14 Waston teaches an electro-larynx according of the suspension assembly is a flexible planar membrane (see fig .1, 18, diaphragm) and an electro-larynx according of the suspension assembly is a mechanical spring (see fig.1, (80,68)).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (US PAT. WO 99/53867) in view of Keefe (US PAT. 5,792,073).

Consider claim 1, Cheon teaches an electron-larynx comprising :

a waveform generator (see fig.2, 211,212 (pulse generating circuit)) configured to selectively generate an input signal (page 10 line 20 –page 11 line 3);

a transducer (see figs. 1-2) a signal from (211 and 215) to 25 for generating vibration) having a throat engagement portion (see fig.1,15), said transducer (see figs. 1-2) configured to receive and transform said input signal into a corresponding output

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vibration of said throat engagement portion (see fig.1, 15), said output vibration being a substantially function (transform an input signal to an output vibration) of said input signal (see page 10 line 1-5); and a power source (see fig.2, 27 and page 14-20), but Cheon does not clearly teach linear transducer and linear function.

However, Keefe teaches a linear transducer and a linear function (see col.3 lines 20-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Keefe into Cheon to provide a acoustic device which function can run faster.

Consider claim 8 Cheon teaches the transducer (see figs. 1-2) has a substantially flat frequency response over a range of about 20 to 2KHz (see page 15 line 7-23 and discussed on claim 1 above).

6. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (US PAT. WO 99/53867) as modified by Keefe (US PAT. 5,792,073) as applied to claim 1 above, and further in view of Watson (US PAT. 3,978,286).

Consider claim 2, Cheon and Keefe do not clearly teach a linear transducer includes: a. an armature assembly, which receives said input signal and vibrates as a function thereof,

b. a suspension assembly coupled to said armature assembly; and

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c. a coupler disk, as said engagement portion, coupled to said suspension assembly, wherein a vibration in said armature assembly causes a corresponding vibration of said coupler disk;

However, Waston teaches a linear transducer includes: a. an armature assembly (see fig.1, 24), which receives said input signal and vibrates as a function thereof, b. a suspension (80, spring) assembly coupled to said armature assembly (24); and c. a coupler disk (88, washers), as said engagement portion, coupled to said suspension assembly (80), wherein a vibration in said armature assembly (24) causes a corresponding vibration of said coupler disk (88 and see col.2 line 44-col.3 line 35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Waston into the teaching of

Cheon and Keefe to provide a speech aid or vibrator device which can function as a convenient external source of such vibrations.

Consider claim 3-4 Waston teaches an electro-larynx according of the suspension assembly is a flexible planar membrane (see fig .1, 18, diaphragm) and an electro-larynx according of the suspension assembly is a mechanical spring (see fig.1, (80,68)).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (WO 99/53867) as modified by Keefe (US PAT. 5,792,073) and Watson (US PAT. 3,978,286) as applied to claims 1-2 above, and further in view of Applicant's prior.

Consider claim 5 Waston teaches an electro-larynx according to of the armature (see fig.1, 24) assembly is substantially disposed within a cylindrical motor assembly

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that defines an internal void region along a central axis and having an radial magnetic field maintained within said internal void region, but Cheon and Watson do not clearly teach a armature assembly includes:

- a. a bobbin coupled to said suspension assembly and disposed within said internal void region and along said central axis; and
 - b. a wire coil wrapped around said bobbin and within said magnetic field;
- whereby when said input signal is applied to said wire coil a corresponding vibration of said bobbin is experienced.

However, Applicant's prior art teaches a. a bobbin (see fig.2, 214) coupled to said suspension assembly (216) and disposed within said internal void region and along said central axis; and

- b. a wire coil (212) wrapped around said bobbin and within said magnetic field;
- whereby when said input signal is applied to said wire coil a corresponding vibration of said bobbin (214) is experienced (see specification page 3 line 11-29).

Therefore, it would obvious to one of ordinary skill in the art at the time the invention was make to combine the teaching of applicant's prior art into the teaching of Cheon, Keefe and Watson to provide an electro-larynx for market demand.

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (WO 99/53867) as modified by Keefe (US PAT. 5,792, 073) and Watson (US PAT. 3,978,286) as applied to claims 1-2 above, and further in view of Arnott (US PAT.5,128,905).

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Consider claim 6 Cheon and Watson do not teach an electro-larynx according of the armature assembly includes a piezo electric actuator coupled to said engagement portion, wherein an input signal delivered to said piezo-electric actuator causes a corresponding linear vibration of said engagement portion.

However, Arnott teaches an electro-larynx according of the armature assembly includes a piezo electric actuator coupled to said engagement portion, wherein an input signal delivered to said piezo-electric actuator causes a corresponding linear vibration of said engagement portion (see fig.1 and col.3 lines 5-40);

Therefore, it would obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Arnott into the teaching of Cheon, Keefe and Watson to provide a new and improved form of acoustic field transducer.

Consider claims 7-8 Arnott teaches the armature assembly includes a magneto-resistive element (such as polymeric) coupled to said engagement portion, wherein an input signal delivered to said magneto-resistive element causes a corresponding linear vibration of said engagement portion (see fig.1 and col.2 lines 5-40) and the linear transducer has a substantially flat frequency response over a range of about 20 to 2KHz (see fig.1 and col.3 line 54-col.4 line 28).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (US PAT. WO 99/53867) as modified by Keefe (US PAT. 5,792,073) as applied to claim 1 above, and further in view of Espy-Wilson (US PAT. 6,359,988).

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Consider claim 9 Cheon teaches an electro-larynx of the input signal generated by said waveform generator (see fig.2, 211,215) has a structure corresponding to a normal glottal excitation, defined over multiple cycles (see page 13 line 25-page.14 line15), but Cheon and Keefe do not teach a harmonic structure.

However, Espy-Wilson teaches a harmonic structure (see fig.1 and col. 3 line 30-50).

Therefore, it would obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Espy-Wilson into the teaching of Cheon, and Keefe to provide an adaptive filtering technique was developed to remove this background noise and a substantial improvement in the speech quality.

9. Claims 10-11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (WO 99/53867) as modified by Keefe (US PAT. 5,792,073) as applied to claim 1 and further in view of Pearson (US PAT. 5,400,434) and Bronson (US PAT. 4,797,926).

Consider claim 10 Cheon teaches an electro-larynx of the waveform generator (see fig.2, 211,215) includes: a pitch adjuster, configured to add pitch information to said glottal sample data (see page 16 line 13-30); but Cheon does not clearly teach

- a. glottal sample data stored in an electronic memory;
- c. a multiplier, configured to add amplitude information to said glottal sample data;
- d. an equalization filter for generating from said glottal sample data, pitch information, and amplitude information a base digital input signal having a predetermined frequency response; and

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e. a digital to analog converter, configured to transform said base digital input signal into said input signal.

However, Pearson teaches a glottal sample data stored in an electronic memory (see fig.8, 85 and see col.8 line 46-col.9 line 33);

c. a multiplier (95, (amplitude control)), configured to add amplitude information to said glottal sample data; and

e. a digital to analog converter, configured to transform said base digital input signal into said input signal (fig.7, 81 and see col.26-col.6 line 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Pearson into Cheon and Keefe to provide a source signal which is capable of quickly and reliably producing voice quality that is indistinguishable from human voice.

On the other hand, Bronson teaches an equalization filter (see fig.2, 200 synthesizer) for generating from said glottal sample data, pitch information, and amplitude information a base digital input signal having a predetermined frequency response (see col.8 line 27-col.9 line 15).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Bronson into Cheon to provide the synthesizer reproduces speech from the transmitted information utilizing the referenced techniques for sinusoidal modeling for the voiced portion of the speech and utilizing either multipulse or noise excitation modeling for the unvoiced portion of the speech.

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Consider claim 11 Pearson teaches an electro-larynx of the glottal sample data is obtained by inverse filtering and digitally sampling voice data (see fig.9, 103 and col.6 line 12-63).

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson (US PAT. 3,978,286) in view of Applicant's prior ~~Art~~ ^{Art}.

Consider claim 15 Watson teaches an electro-larynx according to of the armature (see fig.1, 24) assembly is substantially disposed within a cylindrical motor assembly that defines an internal void region along a central axis and having an radial magnetic field maintained within said internal void region, but Watson does not clearly teach a armature assembly includes:

- a. a bobbin coupled to said suspension assembly and disposed within said internal void region and along said central axis; and
- b. a wire coil wrapped around said bobbin and within said magnetic field;

whereby when said input signal is applied to said wire coil a corresponding vibration of said bobbin is experienced.

However, Applicant's prior art teaches a. a bobbin (see fig.2, 214) coupled to said suspension assembly (216) and disposed within said internal void region and along said central axis; and

- b. a wire coil (212) wrapped around said bobbin and within said magnetic field;

whereby when said input signal is applied to said wire coil a corresponding vibration of said bobbin (214) is experienced (see specification page 3 line 11-29).

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Therefore, it would obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of applicant's prior art into the teaching of Watson to provide an electro-larynx for market demand.

11. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson (US PAT. 3,978,286) in view of Arnott (US PAT. 5,128,905).

Consider claim 6 Watson does not teach an electro-larynx according of the armature assembly includes a piezo electric actuator coupled to said engagement portion, wherein an input signal delivered to said piezo-electric actuator causes a corresponding linear vibration of said engagement portion.

However, Arnott teaches an electro-larynx according of the armature assembly includes a piezo electric actuator coupled to said engagement portion, wherein an input signal delivered to said piezo-electric actuator causes a corresponding linear vibration of said engagement portion (see fig.1 and col. lines 5-40);

Therefore, it would obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Arnott into the teaching of Watson to provide a new and improved form of acoustic field transducer.

Consider claims 17-18 Arnott teaches the armature assembly includes a magneto-resistive element (such as polymeric) coupled to said engagement portion, wherein an input signal delivered to said magneto-resistive element causes a corresponding linear vibration of said engagement portion (see fig.1 and col.2 lines 5-40) and the linear

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transducer has a substantially flat frequency response over a range of about 20 to 2KHz (see fig.1 and col3 line 54-col.4 line 28).

12. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (WO 99/53867) in view of Keefe (US PAT. 5,792,073), Pearson (US PAT. 5,400,434) and Bronson (US PAT. 4,797,926).

Consider claim 19, Cheon teaches an electro-larynx comprising :

A waveform generator (see fig.2, 2111,215) comprising :

A transducer (see figs 1-2) configured to receive and transform said input signal into a corresponding output vibration of throat engagement portion (see page 15 line 2 –page 16 line7), said output vibration being a substantially function of said input signal (see page 10 line1 –page 11 line 32) and a pitch adjuster, configured to add pitch information to said glottal sample data (see page 8 line 4-18); but Cheon does not clearly teach

a glottal sample data stored in an electronic memory;

b. a pitch adjuster, configured to add pitch information to said glottal sample data;

c. a mixer, configured to add amplitude information to said glottal sample data; and

e. a digital to analog converter, configured to transform said base digital

input signal into said input signal; and an equalization filter for generating from said glottal sample data, pitch information, and amplitude information a base digital input signal having a predetermined frequency response ; and linear transducer and linear function.

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However, Parson teaches a glottal sample data stored in an electronic memory (see fig.8, 85 and see col.8 line 46-col.9 line 33);

b. a pitch adjuster (91, pitch control), configured to add pitch information to said glottal sample data;

c. a mixer (95, (amplitude control)), configured to add amplitude information to said glottal sample data; and

e. a digital to analog converter, configured to transform said base digital input signal into said input signal (fig.7, 81 and see col.26-col.6 line 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Pearson into Cheon to provide a source signal which is capable of quickly and reliably producing voice quality that is indistinguishable from human voice.

On the other hand, Bronson teaches an equalization filter (see fig.2, 200 synthesizer) for generating from said glottal sample data, pitch information, and amplitude information a base digital input signal having a predetermined frequency response (see col.8 line 27-col.9 line 15).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Bronson into Cheon to provide the synthesizer reproduces speech from the transmitted information utilizing the referenced techniques for sinusoidal modeling for the voiced portion of the speech and utilizing either multi pulse or noise excitation modeling for the unvoiced portion of the speech.

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However, Keefe teaches a linear transducer and a linear function (see col.3 lines 20-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Keefe into Cheon to provide a acoustic device which function can run faster.

Consider claim 20 Pearson teaches an electro-larynx of the glottal sample data is obtained by inverse filtering and digitally sampling voice data (see fig.9, 103 and col.6 line 12-63).

Consider claim 21 Bronson teaches a waveform generator of the glottal sample data is derived from a mathematical model which preserves the harmonic qualities of the voice data (see col.5 line 50-col.6 line 64).

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (US PAT. WO 99/53867) in view of Espy-Wilson (US PAT. 6,359,988).

Consider claim 22, Cheon teaches an electro-larynx comprising:

A. a waveform generator (see fig.2, (211,215) configured to selectively generate an input signal, wherein said input signal has a structure corresponding to a normal glottal excitation, defined over multiple cycles (see page 13 line 25-col.14 line16).

B. a transducer (see fig.2, 25 vibrator) having a throat engagement portion (see fig.1, 15), said transducer (see fig.2, 25) configured to receive and transform said input signal into a corresponding output vibration of said throat engagement portion (see 1, 15 and page 10 line 1-5 and page 11 line 4-20, page 13 line 10-12); and a power source 9see

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fig.2,27 and page 11 line 14-20); but Cheon and Keefe do not teach a harmonic structure.

However, Espy-Wilson teaches a harmonic structure (see fig.1 and col. 3 line 30-50).

Therefore, it would obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Espy-Wilson into the teaching of Cheon to provide an adaptive filtering technique was developed to remove this background noise and a substantial improvement in the speech quality.

14. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (WO 99/53867) as modified by Espy-Wilson (US PAT. 6,359,988) as applied to claim 22 and further in view of Pearson (US PAT. 5,400,434) and Bronson (US PAT. 4,797,926).

Consider claim 23 Cheon teaches an electro-larynx of the waveform generator (see fig.2, 211,215) includes: a pitch adjuster, configured to add pitch information to said glottal sample data (see page 16 line 13-30); but Cheon does not clearly teach

- a. glottal sample data stored in an electronic memory;
- c. a multiplier, configured to add amplitude information to said glottal sample data;
- d. an equalization filter for generating from said glottal sample data, pitch information, and amplitude information a base digital input signal having a predetermined frequency response; and
- e. a digital to analog converter, configured to transform said base digital

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input signal into said input signal.

However, Pearson teaches a glottal sample data stored in an electronic memory (see fig.8, 85 and see col.8 line 46-col.9 line 33);

c. a multiplier (95, (amplitude control)), configured to add amplitude information to said glottal sample data; and

e. a digital to analog converter, configured to transform said base digital input signal into said input signal (fig.7, 81 and see col.26-col.6 line 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Pearson into Cheon and Espy-Wilson to provide a source signal which is capable of quickly and reliably producing voice quality that is indistinguishable from human voice.

On the other hand, Bronson teaches an equalization filter (see fig.2, 200 synthesizer) for generating from said glottal sample data, pitch information, and amplitude information a base digital input signal having a predetermined frequency response (see col.8 line 27-col.9 line 15).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Bronson into the teaching of Cheon and Espy-Wilson to provide the synthesizer reproduces speech from the transmitted information utilizing the referenced techniques for sinusoidal modeling for the voiced portion of the speech and utilizing either multipulse or noise excitation modeling for the unvoiced portion of the speech.

Consider claim 24 Pearson teaches an electro-larynx of the glottal sample data is obtained by inverse filtering and digitally sampling voice data (see fig.9, 103 and col.6 line 12-63).

Consider claim 25 Bronson teaches a waveform generator of the glottal sample data is derived from a mathematical model which preserves the harmonic qualities of the voice data (see col.5 line 50-col.6 line 64).

Response to Arguments

15. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's argument that Watson does not teach the armature assembly causes a corresponding vibration of said coupler disk according to a linear function of said input signal (remarks, page 9 second paragraph), the examiner respectively disagrees that. Watson teaches that said armature assembly causes a corresponding vibration of said coupler disk (fig. 1, (88,18)) according to a linear function (80, spring) (transform an input signal to an output vibration, such as a spring is a linear function and it is well known in the art) of said input signal (see col.2 line 14-col. 3. line35).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Sondhi (US PAT. 3,925,616) is recited to show other related the electro-larynx.

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17. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(703) 872-9306

Hand-delivered responses should be brought to:

Customer Service Window

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401 Dulany Street

Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 08-25-2005


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600